

CiteSeer.IST will be unavailable from January 6, 6:00PM EST through January 8, 6:00PM EST due to site power upgrades. During this time our mirrors will still be accessible.

**Taming Message Passing: Efficient Method Look-Up for
Dynamically Typed Languages (1994) (Make
Corrections) (16 citations)**
Jan Vitek, R. Nigel Horspool
Lecture Notes in Computer Science

CiteSeer [Home/Search](#) [Context](#) [Related](#)

Links: [DBLP](#)

View or download:

cui.unige.ch/OSG/people/ecoop94.ps.gz
purdue.edu/homes/jv/pub/ecoop94.ps.gz
csr.uvic.ca/~nigelh/Publi/ecoop94.pdf
Cached: [PS.gz](#) [PS](#) [PDF](#) [Image](#) [Update](#) [Help](#)

From: cui.unige.ch/OSG/people/jv/index (more)
(Enter author homepages)

([Enter summary](#))

Rate this article: 1 2 3 4 5 (best)
[Comment on this article](#)

Abstract: Method look-up for dynamically typed object-oriented languages, such as SMALLTALK-80 or OBJECTIVE-C, is usually implemented by a cached inheritance search. Unfortunately, this technique is slow. A selector-indexed dispatch table implementation speeds up messages to within 10% of the speed of a statically typed language such as C++. We present a fast technique for generating compact selector-indexed dispatch tables. ([Update](#))

Context of citations to this paper: [More](#)

...to the method. 3.3. 5 Compact selector indexed dispatch tables (CT) The third table compaction method, proposed by Vitek and Horspool [128], unlike the two previous methods, generates selector specific dispatch code sequences. The technique separates selectors into two...

Cited by: [More](#)

A Framework For Inheritance Management and Method Dispatch - Wade Holst And (1999) ([Correct](#))
Incremental Algorithms for Dispatching in Dynamically Typed.. - Zibin, Gil ([Correct](#))
Compact Dispatch Tables for Dynamically Typed Programming Languages - Vitek (1996) ([Correct](#))

Active bibliography (related documents): [More](#) [All](#)

0.8: Software and Hardware Techniques for Efficient Polymorphic Calls - Driesen (1999) ([Correct](#))
0.8: Message Dispatch on Modern Computer Architectures - Driesen, Hölzle, Vitek (1994) ([Correct](#))
0.6: Message Dispatch on Pipelined Processors - Driesen, Hölzle, Vitek (1995) ([Correct](#))

Similar documents based on text: [More](#) [All](#)

0.7: Compact Dispatch Tables for Dynamically Typed Object Oriented .. - Vitek, Horspool ([Correct](#))
0.4: Near Optimal Hierarchical Encoding of Types - Krall, Vitek, Horspool (1997) ([Correct](#))
0.3: JAZZ: An Efficient Compressed Format for Java Archive Files - Bradley, Horspool, Vitek (1998) ([Correct](#))

Related documents from co-citation: [More](#) [All](#)

9: A fast method dispatcher for compiled languages with multiple inheritance (context) - Dixon, Mckee et al. - 1989
9: Efficient method dispatch in PCL - Kiczales, Rodriguez - 1990
9: Selector Table Indexing and Sparse Arrays (context) - Driesen - 1993

BibTeX entry: ([Update](#))

Jan Vitek and R. N. Horspool. Taming Message Passing: Efficient Method Look-Up for Dynamically-Typed Languages. In ECOOP '94 Conference Proceedings, Bologna, Italy, 1994. <http://citeseer.ist.psu.edu/vitek94taming.html> [More](#)

```
@article{vitek94taming,
  author = "Jan Vitek and R. Nigel Horspool",
  title = "Taming Message Passing: Efficient Method Look-up for Dynamically Typed",
  journal = "Lecture Notes in Computer Science",
  volume = "821",
```

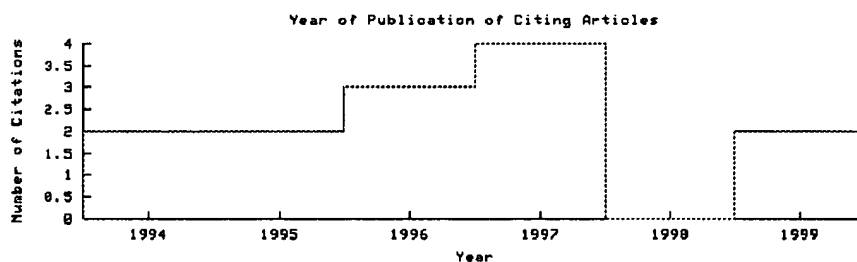
```

pages = "432+",
year = "1994",
url = "citeseer.ist.psu.edu/vitek94taming.html" }

```

Citations (may not include all citations):

- 1261 Object-Oriented Software Construction (context) - Meyer - 1989 [ACM](#)
- 490 Smalltalk-80: The Language and its Implementation (context) - Goldberg, Robson - 1985
- 304 SELF: The Power of Simplicity (context) - Ungar, Smith - 1991 [ACM](#) [DBLP](#)
- 240 Reference Manual (context) - Ellis, Stroustrup et al. - 1990
- 134 Object-Oriented Programming: An Evolutionary Approach (context) - Cox - 1987
- 118 Efficient Implementation of the Smalltalk-80 System - Deutsch, Schiffman - 1984 [ACM](#) [DBLP](#)
- 44 Smalltalk-80 Bits of History (context) - Krasner - 1983
- 40 A Fast Method Dispatcher for Compiled Languages with Multipl.. (context) - Dixon, McKee et al. - 1989 [ACM](#) [DBLP](#)
- 29 Compile-time analysis of object-oriented programs (context) - Vitek, Horspool et al. - 1992 [ACM](#) [DBLP](#)
- 24 Optimizing Method Search with Lookup Caches and Incremental .. (context) - Andre, Royer - 1992 [ACM](#) [DBLP](#)
- 20 Fast Dispatch Mechanisms for Stock Hardware (context) - Rose - 1988 [ACM](#) [DBLP](#)
- 16 Method Lookup Strategies in Dynamically Typed Object-Oriented.. (context) - Driesen - 1993
- 15 Two-directional record layout for multiple inheritance (context) - Pugh, Weddell - 1990 [ACM](#) [DBLP](#)
- 14 Optimization of Parser Tables for Portable Compilers (context) - Dencker, Durre et al. - 1984 [ACM](#) [DBLP](#)
- 12 Berkeley Smalltalk: Who Knows Where the Time Goes (context) - Ungar, Patterson
- 12 TICLOS: An implementation of CLOS for the Explorer Family (context) - Dussud - 1990 [ACM](#) [DBLP](#)
- 7 The Design and Implementation of VAX/Smalltalk (context) - Ballard, Shirron
- 6 An Assessment of Method-Lookup Caches for Smalltalk-80 Imple.. (context) - Conroy, Pelegri-Llopert
- 6 Selector Table Indexing & Sparse Arrays - Driesen - 1993
- 6 Efficient algorithms for method dispatch in object-oriented .. (context) - Huang, Chen - 1992
- 5 on Lisp and Functional Programming (context) - Kiczales, Rodriguez - 1990
- 4 Optimizing Dynamically-Typed Object-Oriented Languages With .. (context) - Hoelzle, Chamber et al. - 1993 [ACM](#) [DBLP](#)
- 4 Type Inference of SELF: Analysis of Objects with Dynamic and.. (context) - Agessen, Palsberg et al. - 1993 [DBLP](#)
- 2 a Dynamically Typed Object Oriented Programming Language (context) - Chambers, Ungar et al. - 1989
- 2 How Virtual Functions Work (context) - Koenig - 1989 [ACM](#)
- 1 Space Requirements of Object-Oriented Programs (context) - Thomas - 1989



The graph only includes citing articles where the year of publication is known.

Documents on the same site (<http://cui.unige.ch/OSG/people/jvitek/Publications/index.html>): [More](#)

Message Dispatch on Pipelined Processors - Driesen, Hölzle, Vitek (1995) ([Correct](#))

Commitment and confinement for the Seal calculus - Castagna, Vitek ([Correct](#))

Compact Dispatch Tables for Dynamically Typed Programming Languages - Vitek (1995) ([Correct](#))

[Online articles have much greater impact](#) [More about CiteSeer.IST](#) [Add search form to your site](#) [Submit documents](#) [Feedback](#)

CiteSeer.IST - Copyright [Penn State](#) and [NEC](#)

[Sign in](#)[Web](#) [Images](#) [Groups](#) [News](#) [Froogle](#) [Local](#) [more »](#)[Advanced Search](#)
[Preferences](#)**Web**Results 1 - 10 of about 88,800,000 for **dynamically typed language lookup**. (0.30 seconds)**Dynamic programming language - Wikipedia, the free encyclopedia**... effect of this dynamism, most **dynamic programming languages** are **dynamically typed**, ... Many **dynamic languages** also **look up** data in the same fashion, ...en.wikipedia.org/wiki/Dynamic_programming_language - 16k - [Cached](#) - [Similar pages](#)**Programming language - Wikipedia, the free encyclopedia**Sometimes **dynamically typed languages** are called latently **typed**. ... **Dynamically typed languages** treat all data locations interchangeably, so inappropriate ...en.wikipedia.org/wiki/Programming_language - 52k - [Cached](#) - [Similar pages](#)[[More results from en.wikipedia.org](#)]**SitePoint Blogs » PHP**For example, switching from a statically **typed language** like Java to a **dynamic** one with forwarding substantially changes the approach to Factory, Proxy, ...www.sitepoint.com/blogs/category/php/ - 44k - [Cached](#) - [Similar pages](#)**Introduction to Static and Dynamic Typing [Server Side Essentials]****Languages** that have static **typing** or **dynamic typing** are said to be "static ...It is erroneous to say that a **language** that is static or **dynamic typed** cannot ...www.sitepoint.com/article/typing-versus-dynamic-typing - 49k - [Cached](#) - [Similar pages](#)**Citations: Taming Message Passing: Efficient Method Look-Up for ...**Taming Message Passing: Efficient Method **Look-Up** for **Dynamically-Typed Languages**.

In ECOOP '94 Conference Proceedings, Bologna, Italy, 1994.

citeseer.ist.psu.edu/context/63064/1834 - 10k - [Cached](#) - [Similar pages](#)**Incremental Algorithms for Dispatching in Dynamically Typed ...**27 Optimizing **dynamically-typed** object-oriented **languages** with 5 Efficient**dynamic method-lookup** for object oriented **language**. ...citeseer.ist.psu.edu/633032.html - 21k - [Cached](#) - [Similar pages](#)[[More results from citeseer.ist.psu.edu](#)]**ITworld.com - Are scripting languages the wave of the future?****Dynamically typed languages**, however, have virtually zero compile time. ...In **dynamically typed languages**, redeployment problems are not eliminated, ...www.itworld.com/AppDev/1262/itw-0314-rcmappdevint/ - 45k - [Cached](#) - [Similar pages](#)**ITworld.com - Dynamically typed languages are no cure-all**Untyped or **dynamically typed languages** are OK for throwaway code, although in my experience with developing such code I have every single time wished in ...www.itworld.com/AppDev/1032/ITF010402meyerpromo/ - 43k - [Cached](#) - [Similar pages](#)**Contents**Creating an entry containing attributes with **language** tags ... Group attribute**types** · Roles · Managing search limit groups · Creating a search limit group ...publib.boulder.ibm.com/infocenter/tiv2help/topic/com.ibm.IBMDS.doc_5.2/admin_gd02.htm - 53k - [Cached](#) - [Similar pages](#)**ActionScript 3:overview - Macromedia Labs**Safety - The **language** supports **type safety** so developers can write unambiguous,... **Dynamic** classes are also possible using the **dynamic** keyword. ...labs.macromedia.com/wiki/index.php/ActionScript_3:overview - 25k - [Cached](#) - [Similar pages](#)Try your search again on [Google Book Search](#)

Goooooooooooooogle ►

Result Page: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [Next](#)

[Sign in](#)[Web](#) [Images](#) [Groups](#) [News](#) [Froogle](#) [Local](#) [more »](#)[Advanced Search](#)
[Preferences](#)**Web**Results 1 - 10 of about 28,700 for **dynamically typed language lookup Vitek**. (0.27 seconds)**Compact Dispatch Tables for Dynamically Typed Programming ...**

Jan Vitek and R. Nigel Horspool. Compact dispatch tables for **dynamically typed programming languages**. In Proceedings of the Intl. Conference on Compiler ...
citeseer.ist.psu.edu/vitek96compact.html - 34k - [Cached](#) - [Similar pages](#)

Citations: Taming Message Passing: Efficient Method Look-Up for ...

Jan Vitek and RN Horspool. Taming Message Passing: Efficient Method **Look-Up** for **Dynamically-Typed Languages**. In ECOOP '94 Conference Proceedings, Bologna, ...
citeseer.ist.psu.edu/context/63064/1834 - 10k - [Cached](#) - [Similar pages](#)
[[More results from citeseer.ist.psu.edu](#)]

Publications

Compact dispatch tables for **dynamically typed** object oriented **languages**. CC.
Vitek . Secure object spaces MOS. Konstantas, Morin and **Vitek**. ...
www.cs.purdue.edu/homes/jv/yearly.htm - 20k - [Cached](#) - [Similar pages](#)

Bioinformatics

Taming Message Passing: Efficient Method **Look-Up** for **Dynamically Typed Languages**
Jan Vitek and R. Nigel Horspool", Proceedings of the 9th European ...
www.cs.purdue.edu/homes/jv/pubs.html - 20k - [Cached](#) - [Similar pages](#)
[[More results from www.cs.purdue.edu](#)]

Compact Dispatch Tables for Dynamically Typed Programming ...

... dispatch tables for **dynamically typed programming languages**", text = "Jan Vitek and ... 16 Method **Lookup** Strategies in **Dynamically Typed** Object-Oriented ...
citeseer.ifi.unizh.ch/vitek96compact.html - 29k - [Cached](#) - [Similar pages](#)

[PDF] Compact Dispatch Tables for Dynamically Typed Object Oriented ...

File Format: PDF/Adobe Acrobat - [View as HTML](#)
Efficient method **lookup** for **dynamically typed** ob- ject-oriented **languages**.
In ECOOP'94, LNCS 821,. Springer-Verlag, 1994. [16]**Vitek**, J: Compact Dispatch ...
www.cs.uvic.ca/~nigelh/Publications/cdt95.pdf - [Similar pages](#)

DBLP: Jan Vitek

3, EE, Jan Vitek, R. Nigel Horspool: Taming Message Passing: Efficient Method **Look-Up** for **Dynamically Typed Languages**. ECOOP 1994: 432-449 ...
www.informatik.uni-trier.de/~ley/db/indices/a-tree/v/Vitek:Jan.html - 29k - [Cached](#) - [Similar pages](#)

OSG Bibliography

Jan Vitek and R. Nigel Horspool, "Compacting Dispatch Tables for **Dynamically Typed Object Oriented Languages**," Proceedings of Compiler Construction, ...
cui.unige.ch/.../Bib/osg.bib&htgrep=/osgrefts&ftpstyle=file&refer=plain&abstract=yes?Vite96 - 3k - [Cached](#) - [Similar pages](#)

Comp.compilers: Re: [Question] Code Generation of OOP languages

author = {Jan Vitek and R. Nigel Horspool}, title = {Compact Dispatch Tables for **Dynamically Typed Object Oriented Languages**}, crossref = {cc96}, ...
compilers.iecc.com/comparch/article/99-12-035 - 20k - [Cached](#) - [Similar pages](#)

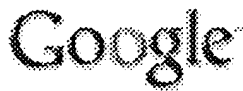
[PDF] Object-oriented Encapsulation for Dynamically Typed Languages

File Format: PDF/Adobe Acrobat - [View as HTML](#)
ject-oriented encapsulation in **dynamically typed languages**. ... the ordinary
Smalltalk message **lookup** process. For object- ...
www.iam.unibe.ch/~scg/Archive/Papers/Scha04bOOEncapsulation.pdf - [Similar pages](#)

Try your search again on [Google Book Search](#)

Goooooooooooooogle ►

Result Page: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#)

[Sign in](#)
[Web](#) [Images](#) [Groups](#) [News](#) [Froogle](#) [Local](#) [more »](#)

dynamically typed language lookup Vitek

[Search](#)
[Advanced Search](#)
[Preferences](#)
Web

Results 11 - 20 of about 28,700 for dynamically typed language lookup Vitek. (0.21 seconds)

Bibliography

Jan Vitek, R. Nigel Horspool, Taming Message Passing: Efficient method lookup for **dynamically typed** object-oriented languages. ...
 minnow.cc.gatech.edu/squeak/400 - 28k - [Cached](#) - [Similar pages](#)

[PDF] Object Encapsulation for Dynamically Typed Languages

File Format: PDF/Adobe Acrobat - [View as HTML](#)
languages. Popular **dynamically typed languages** such as. Smalltalk, Self, Python, and Ruby ... they cause the message **lookup** to start not in the class of ...
 www.cse.ogi.edu/tech-reports/2004/04-002.pdf - [Similar pages](#)

[PDF] Compact Dispatch Tables for Dynamically Typed Programming Languages

File Format: PDF/Adobe Acrobat - [View as HTML](#)
Typed Programming Languages. Jan Vitek. University of Geneva ... Method **look-up** can not fail. **Dynamically typed** programming languages choose to detect **type** ...
 cui.unige.ch/OSG/publications/OO-articles/TechnicalReports/96/compDispTabl.pdf - [Similar pages](#)
 [[More results from cui.unige.ch](#)]

[PDF] Incremental Algorithms for Dispatching in Dynamically Typed Languages

File Format: PDF/Adobe Acrobat - [View as HTML](#)
 tical heuristics, including Vitek and Horspool's compact dispatch. tables (CT) [16] designed for **dynamically typed languages**, lack. theoretical support. ...
 www.cs.technion.ac.il/~zyoav/publications/POPL03-dispatching-CT.pdf - [Similar pages](#)

Comp.compilers: Re: Information on dispatch-techniques

See Karel Driesen's master thesis: "Method **Lookup** Strategies in **Dynamically Typed** Object-Oriented Programming **Languages**." ...
 compilers.iecc.com/comparch/article/96-11-153 - 15k - [Cached](#) - [Similar pages](#)

Royal Holloway Department of Computer Science: Giorgios Economopoulos

[VH94]: Jan Vitek and R. Nigel Horspool. Taming message passing: Efficient method **look-up** for **dynamically typed languages**. Lecture Notes in Computer Science ...
 www.cs.rhul.ac.uk/home/giorgios/Bibliography/TableCompression/ - 26k - [Cached](#) - [Similar pages](#)

Publications -- R. Nigel Horspool

Taming Message Passing: Efficient Method **Look-Up** for **Dynamically Typed Languages**
 Jan Vitek and R. Nigel Horspool Published in proceedings of European Conf. ...
 www.cs.uvic.ca/~nigelh/pubs.html - 13k - [Cached](#) - [Similar pages](#)
 [[More results from www.cs.uvic.ca](#)]

[PDF] Dynamic ML without Dynamic Types

File Format: PDF/Adobe Acrobat - [View as HTML](#)
 in common with ours [10]. His **language** differs from ours in that it retains. **type** information at run-time but adds **dynamic types** without suffering the ...
 www.lfcs.inf.ed.ac.uk/reports/97/ECS-LFCS-97-378/ECS-LFCS-97-378.pdf - [Similar pages](#)

8. ECOOP 1994: Bologna, Italy

Electronic Edition (Springer LINK) BibTeX · Jan Vitek, R. Nigel Horspool: Taming Message Passing: Efficient Method **Look-Up** for **Dynamically Typed Languages**. ...
 www.informatik.uni-trier.de/~ley/db/conf/ecoop/ecoop94.html - 17k - [Cached](#) - [Similar pages](#)
 [[More results from www.informatik.uni-trier.de](#)]

ECOOP Proceedings 1994

Taming Message Passing: Efficient Method **Look-up** for **Dynamically Typed Languages**
 Jan Vitek and R. Nigel Horspool ECOOP '94 (LNCS 821), p. 432 ff. ...
 www.ifs.uni-linz.ac.at/~ecoop/cd/tocs/t0821.htm - 10k - [Cached](#) - [Similar pages](#)

Result Page:



S11 0	1	(binding near5 (member adj2 (reference object class))) and (dynamic\$5 near2 typed)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/19 16:00
S11 1	8	(binding near5 (member adj2 (reference object class))) and (Java C++)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/19 16:00
S11 2	7	((@ad<="20011012" or @rlad<="20011012") and S111	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/19 16:09
S11 3	4	S112 and ((dynamic\$6 runtime) near9 (typ\$2 access))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/19 16:09
S11 4	153	((bind\$4 link\$4) with (variable object parameter method) with (reference class)) same runtime	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 13:32
S11 5	26	((bind\$4) with (variable object parameter pointer) with (reference)) and S114	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 13:33
S11 6	17	((@ad<="20011012" or @rlad<="20011012") not Allison. in. and S115	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 13:47
S11 7	18	((@ad<="20011012" or @rlad<="20011012") not Allison. in. and S114 and ((bind\$4 link\$4) near8 (referenc\$3 near4 (method class)))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 13:35
S11 8	3	S116 and S117	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 13:40
S11 9	1	((access near2 control) same ((public and private) near3 member)) and (runtime same bind\$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 16:03

S12 0	3	S114 and ((public and private) near3 member) and (runtime same bind\$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 13:46
S12 1	4	(virtual near function) same (late near binding)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 13:46
S12 2	2	((@ad<="20011012" or @rlad<="20011012") not Allison. in. and S121	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:56
S12 3	3	(dynamic\$5 near typ\$5) and (late near binding).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:57
S12 4	1	(dynamic\$5 near typ\$5) and (late near bind\$5).clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:57
S12 5	0	(dynamic\$5 near typ\$5).ab. and ((late near bind\$5) same virtual)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:58
S12 6	3	(dynamic\$5).ab. and ((late near bind\$5) same virtual)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:58
S12 7	276	((private and public) near8 (member class)) same access	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:58
S12 8	6	(S123 or S124 or S126)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:59
S12 9	1	S127 and S128	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:59

S13 0	5	not S129 and S128	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 16:01
S13 1	2	(@ad<="20011012" or @rlad<="20011012") and S130	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 16:00
S13 2	4	S130 not Allison.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 16:05
S13 3	25	(US-20020023257-\$ or US-20020138727-\$ or US-20040154008-\$ or US-20050149914-\$ or US-20050172302-\$ or US-20020120940-\$).did. or (US-5339430-\$ or US-5515536-\$ or US-5579518-\$ or US-5613120-\$ or US-5692195-\$ or US-5794044-\$ or US-5872973-\$ or US-5911068-\$ or US-6041179-\$ or US-6063128-\$ or US-6085035-\$ or US-6263414-\$ or US-6519690-\$ or US-6704927-\$ or US-6738968-\$ or US-6766521-\$ or US-5903758-\$ or US-5802291-\$ or US-6182282-\$).did.	US-PGPUB; USPAT	OR	ON	2006/01/11 11:21
S13 4	2	S133 and ((public and private) near3 member) and (runtime same bind\$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 16:04
S13 5	0	S133 and ((public and private) with violation) and (runtime same bind\$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 16:04
S13 6	1	S133 and ((public and private) with access) and (runtime same bind\$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 16:04
S13 7	3	S133 and ((public private) with (access violation)) and (runtime same bind\$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 16:05

S13 8	3	S137 not Allison.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 16:10
S13 9	13	(classloader same defineclass)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 16:10
S14 0	25	(US-20020023257-\$ or US-20020138727-\$ or US-20040154008-\$ or US-20050149914-\$ or US-20050172302-\$ or US-20020120940-\$).did. or (US-5339430-\$ or US-5515536-\$ or US-5579518-\$ or US-5613120-\$ or US-5692195-\$ or US-5794044-\$ or US-5872973-\$ or US-5911068-\$ or US-6041179-\$ or US-6063128-\$ or US-6085035-\$ or US-6263414-\$ or US-6519690-\$ or US-6704927-\$ or US-6738968-\$ or US-6766521-\$ or US-5903758-\$ or US-5802291-\$ or US-6182282-\$).did.	US-PGPUB; USPAT	OR	ON	2006/01/11 11:21
S14 1	5	S140 and (virtual near method)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/11 11:29
S14 2	0	S141 and ((access near2 (control right)) or ((private with public) with (violation access\$5)))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/11 11:31
S14 3	3	S141 and ((access near2 (control right)) or ((private or public) with (violation access\$5)))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/11 12:01
S14 5	3	(dynamical\$4 near typed) and (virtual near3 method).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/11 12:00
S14 6	0	((@ad<="20011012" or @rlad<="20011012") not Allison. in. and S142	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/11 12:00

S14 7	15	(dynamical\$4 near link\$6) and (virtual near3 method).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/11 12:00
S14 8	6	(@ad<="20011012" or @rlad<="20011012") not Allison. in. and S147	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/11 12:36
S14 9	3	S148 and ((access near2 (control right violat\$4 permi\$6 exception)) or ((private or public) with member))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/11 12:35
S15 0	13	(dynamically near typed) and (virtual near2 method)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/11 12:36
S15 1	10	(@ad<="20011012" or @rlad<="20011012") not Allison. in. and S150	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/11 13:36
S15 2	3	S151 and (access with exception)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/11 15:09
S15 3	0	(class adj load\$5) and jvm and (virtual near method) and ((late dynamic) near8 (link\$4 binding)) and (dynamic\$5 near type\$2) and ((private public) near4 (access member method))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/11 15:12
S15 4	27	(class adj load\$5) and jvm and (virtual near method) and ((late dynamic) near8 (link\$4 binding))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/11 15:12
S15 5	0	IllegalAccessException and (dynamic\$5 near type\$2) and ((private public) near4 (access member method))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/11 15:12
S15 6	9	(access near3 Exception) and (dynamic\$5 near type\$2) and ((private public) near4 (access member method))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/11 15:13

S15 7	19	(@ad<="20011012" or @rlad<="20011012") not Allison. in. and S154	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/11 15:13
S15 8	9	(@ad<="20011012" or @rlad<="20011012") not Allison. in. and S156	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/11 15:13
S15 9	4	("6678745" or "6704924").pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 10:40
S16 0	1	S159 and ((late runtime dynamic) with (bind\$5 link\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 10:58
S16 1	2	"6507946".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 11:16
S16 2	28	(dynamic\$5 with typed).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 11:00
S16 3	12	(@ad<="20011012" or @rlad<="20011012") not Allison. in. and S162	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 11:00

S16 4	29	(US-20020023257-\$ or US-20020120940-\$ or US-20020138727-\$ or US-20040154008-\$ or US-20050149914-\$ or US-20050172302-\$).did. or (US-5339430-\$ or US-5515536-\$ or US-5579518-\$ or US-5613120-\$ or US-5692195-\$ or US-5794044-\$ or US-5802291-\$ or US-5872973-\$ or US-5903758-\$ or US-5911068-\$ or US-6041179-\$ or US-6063128-\$ or US-6085035-\$ or US-6182282-\$ or US-6263414-\$ or US-6385660-\$ or US-6507946-\$ or US-6519690-\$ or US-6560774-\$ or US-6704927-\$ or US-6738968-\$ or US-6766521-\$).did. or (WO-200046670-\$).did.	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/12 11:02
S16 5	19	S164 and (dynamic\$5 with (type\$2 bind\$4 link\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 11:04
S16 6	18	S164 and (runtime\$2 with (type\$2 bind\$4 link\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 11:04
S16 7	20	S165 or S166 and ((access near5 (exception violation)) or (classloader and (private same public)))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 11:06
S16 8	14	S167 not microsystems.as.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 11:26
S16 9	4	S168 and (access with (permi\$6 exception violation))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 11:56
S17 0	9	S164 and (runtime with (bind\$4 link\$4)) and (virtual near4 (function method))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 11:57

S17 1	1	S167 and Chan.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 13:27
S17 2	862	(Chan.in. Yasumatsu.in.) and (message (protected near4 class))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 13:29
S17 3	29	S172 and ((runtime dynamic\$5) with (binding link\$4 resol\$6))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 13:30
S17 4	5	S173 and (object same class) and (C++ Smalltalk)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 13:31
S17 5	2	(US-20050172302-\$).did. or (US-5579518-\$).did.	US-PGPUB; USPAT	OR	ON	2006/01/12 13:31
S17 6	0	S175 and (virtual near method)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 13:32
S17 7	1	S175 and (virtual)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 13:33
S17 8	0	Objective and S177	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 13:33
S17 9	0	Smalltalk and S177	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 13:34
S18 0	3	Smalltalk and S174	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 13:34

S18 1	29	(US-20020023257-\$ or US-20020120940-\$ or US-20020138727-\$ or US-20040154008-\$ or US-20050149914-\$ or US-20050172302-\$).did. or (US-5339430-\$ or US-5515536-\$ or US-5579518-\$ or US-5613120-\$ or US-5692195-\$ or US-5794044-\$ or US-5802291-\$ or US-5872973-\$ or US-5903758-\$ or US-5911068-\$ or US-6041179-\$ or US-6063128-\$ or US-6085035-\$ or US-6182282-\$ or US-6263414-\$ or US-6385660-\$ or US-6507946-\$ or US-6519690-\$ or US-6560774-\$ or US-6704927-\$ or US-6738968-\$ or US-6766521-\$).did. or (WO-200046670-\$).did.	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/12 14:01
S18 2	18	S181 and (C++ and virtual)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 14:02
S18 3	7	S182 and message	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 14:17